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#### NEW SPECIES OF LEPIDOPTERA FROM SOUTH AMERICA.

By W. Schaus, Bureau of Entomology.

#### RHOPALOCERA.

Family RIODINIDAE.

Calydna hemis, new species.

Body fuscous; abdomen with some lateral white scaling, also white ventrally with fuscous irrorations. Wings fuscous, shaped as in *C. caprina* Hew., cilia white on curves. Fore wing: a postmedial ochraceous orange band from submedian to vein 3, above 3 a small spot slightly outset from which a faint line extends upward; a small tawny spot below vein 2 edged with black. Hind wing with an irregular postmedial tawny band not extending above vein 6, nor reaching inner margin. Wings below white thickly striated with coarse fuscous striae. Fore wing: small black antemedial spots in and below cell, similar medial spots, and a black line before the orange yellow band; postmedial space suffused with brown. Hind wing: antemedial black spots on costa and below cell at vein 2; postmedial space whiter owing to fewer striae; the tawny markings not present; a fuscous patch at apex.

Expanse 27 mm.

Habitat.—Santa Catharina, Brazil. Type.—Cat. No. 33187, U. S. N. M.

#### HETEROCERA.

Family AMATIDAE.

Mesotheu zenobia, new species.

Male.—Palpi yellow; frons white; vertex black with white line between antennae; collar and thorax fuscous, the former crossed by a naples yellow line, the latter with a similar lateral line expanding on metathorax. Abdomen fuscous at base with subdorsal triangular naples yellow spots, otherwise dorsally iridescent deep neutral gray with black segmental lines; underneath cream color with fine black segmental lines; legs naples yellow, the fore and mid tibiae fuscous. Wings hyaline faintly pale brown, the termen finely and cilia fuscous; veins black; a naples yellow line above subcostal of fore wing, and a similar short streak at base of inner margin.

Expanse 20 mm.

Habitat.—Santa Catharina, Brazil. Type.—Cat. No. 33188, U. S. N. M.

In another specimen segment 6 of abdomen is dorsally naples yellow.

#### Holophaea erharda, new species.

Female.—Body black. Fore wing dark silky green, the veins black. Hind wing duller, the costa suffused with brownish olive.

Expanse 28-32 mm.

Habitat.—Santa Catharina, Brazil. Type.—Cat. No. 33189, U. S. N. M.

#### Family ARCTIIDAE.

#### Hemihyalea camposi, new species.

Male.—Antennae wood brown. Palpi and head ocher red; some white scales between antennae. Collar and thorax buckthorn brown; a broad white band on front of collar and shoulders. Abdomen above geranium pink, the two last segments with grayish segmental lines, the anal claspers with white and salmon color hairs. Throat and femora ocher red; fore legs mouse gray fringed with white; mid and hind legs white; mid tarsi mouse gray. Wings hyaline, white. Fore wing: costa and base of inner margin light pinkish cinnamon; cilia light pinkish cinnamon tipped with cinnamon drab.

Expanse 60 mm.

Habitat.—Azogues, Ecuador. Type.—Cat. No. 33190, U. S. N. M. Named for Prof. Campos, who discovered the species.

#### Amastus aphraates, new species.

Male.—Palpi crimson above, light drab laterally. Head and thorax raw sienna, the tegulae dorsally fringed with light drab. Abdomen cinnamon buff, the long dorsal hairs buff pink. Thorax below vinaceous tawny, the tibiae and tarsi white. Fore wing semihyaline irrorated with vinaceous fawn, the margins well scaled, fawn color; veins fawn color slightly darker on discocellular; a subterminal light vinaceous fawn line. Hind wings semihyaline white, the inner margin suffused with light vinaceous fawn.

Expanse 51 mm.

Habitat.—Tucuman, Argentina. Type.—Cat. No. 33191, U. S. N. M.

#### Amastus ferrera, new species.

Female.—Head and body saccardo's umber; thorax and metathorax with tufts of jasper pink hairs, those on metathorax becoming drab and reaching middle of abdomen, the latter having drab segmental lines; some sublateral red spots. Hairs below eyes and on fore legs brick red. Fore wing sayal brown defined by fine black lines; an antemedial broad, outcurved black line, its outer edge dentate, lunular; double medial and postmedial, outcurved on costa, then inbent, filled in with drab, a similar double outer line, its outer

edge incurved on interspaces; subterminal line drab, dentate. Hind wing semihyaline suffused with avellaneous, more thickly scaled on termen; a darker line on discocellular.

Expanse 47 mm.

Habitat.—Tucuman, Argentina. Type.—Cat. No. 33192, U. S. N. M. Near A. maculicincta Hamps.

#### Halisidota ramona, new species.

Female.—Head and thorax avellaneous; third joint of palpi black. Abdomen above cinnamon buff; body below avellaneous. Fore wing avellaneous, the inner margin narrowly fuscous; three broad transverse darker bands with slightly darker edges, the antemedial almost vertical, the medial slightly inbent, the postmedial still more inbent, suffusing at costa with a terminal wood brown shade which becomes narrower at vein 2, expanding very slightly at tornus. Hind wing white, the outer half faintly suffused with pale orange yellow, more pronounced on inner margin.

Expanse 60 mm.

Habitat.—Santa Catharina, Brazil. Type.—Cat. No. 33193, U. S. N. M.

#### Halisidota mailula, new species.

Male.—Antennae moderately pectinated. Head and thorax vinaceous buff; palpi wood brown; metathorax and base of abdomen whitish buff, the abdomen otherwise dorsally ochraceous buff. Fore wing light buff irrorated with light drab; a small hair brown streak on discocellular between veins 3 and 4; a very fine wavy hair brown postmedial line outcurved beyond cell, closely followed by short double vertical streaks on interspaces; a more remote series of small inangled lines on interspaces; termen with fine oval lines on interspaces, some of them broken. Hind wing white; a few drab points at apex and terminally between veins 2 and 3; a short hair brown streak on termen below vein 6. Underside similar, the markings a little less pronounced.

Expanse 40 mm.

Habitat.—Tucuman, Argentina. Type.—Cat. No. 33194, U. S. N. M.

#### Halisidota pohli, new species.

Male.—Antennae shortly pectinated. Palpi light buff; a hair brown streak laterally near upper edge downbent at tip of second joint to front; the third joint hair brown in front. Head, thorax and long dorsal hairs on abdomen yellow ocher; abdomen dorsally light drab. Body underneath whitish buff. Fore wing warm buff, the interspaces beyond cell light buff, the veins warm buff; some scattered drab scales, suffusing and forming an inbent antemedial line; a similar postmedial line irregular and outcurved close to cell, joined by a similar subterminal shade from costa to vein 6, then forming a vague dentate

warm buff line; marginal inangled hair brown lines on interspaces. Hind wing white, the inner margin suffused with maize yellow.

Expanse 45 mm.

Habitat.—São Paulo, Brazil. Type.—Cat. No. 33195, U. S. N. M. Can be placed next to H. eudolobata Hamps.

#### Calidota hadesia, new species.

Male.—Head and body black; an orange point behind antenna, and a smaller point near shoulder; abdomen with large lateral, and smaller sublateral orange yellow spots. Fore wing black. Hind wing white from within cell to near inner margin and to just beyond middle, otherwise black.

Expanse 67 mm.

Habitat.—Molinas, Paraguay.

Type.—Cat. No. 33196, U. S. N. M.

Allied to *C. leucocorypha* Dogn., which has a creamy white vertex, and the yellow lateral spots almost meeting dorsally.

#### Acyclania schadei, new species.

Male.—Head and body black. Palpi below, hair around eyes, on femora, at base of abdomen laterally, and anal hair light coral red; some white hairs on head, and long white hairs on fore and mid tibiae; collar and tegulae largely overlaid with broad light grayish olive scales, suffused with roseate. Fore wing dark grayish olive irrorated with black scales; orbicular and reniform edged with white, both surmounted by white patches on costa, the reniform divided into three spots by white; vague double antemedial and postmedial black lines somewhat macular; veins towards termen grayish; a deep marginal dentate line, angled at each interspace and at tips of veins cutting a double white terminal line. Hind wing black; a double white terminal line interrupted by veins.

Expanse 45 mm.

Habitat.—Molinasque, Paraguay. Type.—Cat. No. 33197, U. S. N. M. Allied to A. tenebrosa Dogn. but smaller and darker.

#### Family SATURNIIDAE.

#### Hylesia sorana, new species.

Male.—Head and thorax cinnamon drab. Abdomen above black, the anal hairs cinnamon buff. Body below cinnamon buff; tarsi hair brown. Fore wing avellaneous suffused with vinaceous fawn; antemedial line faint, slightly darker, outbent from costa; outer line rather fine, light brownish olive, very slightly curved at costa, then straight to inner margin at two-thirds from base, the space beyond to termen slightly tinged with olivaceous; subterminal line sinuous light vinaceous fawn, a darker shade at discocellular. Hind wing vinaceous fawn almost entirely suffused with drab; a postmedial dark grayish

olive, slightly curved line, and traces of a narrow subterminal dark shade. Wings below mostly light pinkish cinnamon with a dark outer line.

Expanse 37 mm.

Habitat.—São Paulo, Brazil. Type.—Cat. No. 33198, U. S. N. M.

#### Hylesia munonia, new species.

Male.—Head and collar dark vinaceous brown. Thorax dark grayish brown mottled with ochraceous tawny hairs. Abdomen cinnamon. Tarsi and tibiae hair brown. Fore wing dark vinaceous drab, the costa beyond middle light vinaceous drab, and a similar broad subterminal shade reaching termen below vein 4 to tornus; some white hairs on costa antemedially, and traces of a light buff broken and irregular line; some light vinaceous drab scaling above a diffuse dark patch over the discocellular and some light scaling before the outer line, chiefly on inner margin; outer line slightly incurved, mars brown, outwardly edged with tawny olive. Hind wing: costa and terminal area light brownish drab; discal area fawn color largely covered with dark vinaceous drab hairs; a dark double line at discocellular; postmedial line dark slightly curved at costa; a subterminal dark shade. Fore wing below cinnamon drab, the terminal area and inner margin light drab; a dark outer line. Hind wing below light ochraceous salmon, the veins fawn color; a fawn color outer line.

Expanse 40 mm.

Habitat.—São Paulo, Brazil. Type.—Cat. No. 38199, U. S. N. M. Not like any described species.

#### Family GEOMETRIDAE.

#### Berberodes pohli, new species.

Male.—Frons and shaft of antennae cinnamon brown; vertex and collar dresden brown; abdomen dorsally white at base, then pinkish buff; a hair brown patch on anal segment; lateral tufts pinkish buff and silvery white. Wings iridescent white, the lines and striae on terminal area vinaceous buff. Fore wing: costa cinnamon brown shading to yellow ocher at apex; lines fine vertical; the antemedial from median to inner mergin, the medial from costa, the postmedial formed by disconnected striae. Hind wing: no antemedial line, the medial and postmedial slightly curved; inner margin suffused with light buff and with silvery white scales.

Expanse 28 mm.

Habitat.—São Paulo, Brazil. Type.—Cat. No. 33200, U. S. N. M. Described from a male and a female.

#### Berberodes serraria, new species.

Female.—Head morocco red with two white points on each side of frons; body white with dorsal black points on abdomen, a sublateral point on second

segment, and black irrorations towards anal segments. Wings iridescent white; deep mouse gray striae partly with black points on terminal area; medial and postmedial black points on veins in sinuous formation. Fore wing: costa deep chrome with black striae; antemedial points on veins; cilia of both wings pale orange yellow. Wings below white, the termen dark mouse gray, preceded by a few striae.

Expanse 26 mm.

Habitat.—Alto da Serra, São Paulo, Brazil. Type.—Cat. No. 33201, U. S. N. M.

#### Pyrinia sabasia, new species.

Female.—Body warm buff. Wings maize yellow thickly striated with ochraceous salmon, the cilia russet. Fore wing: base and termen still more thickly striated; lines ochraceous tawny, the antemedial outangled below costa inwardly edged with white scales from costa to median vein, the postmedial from a little before apex outangled to termen at vein 7, then inbent, russet, inwardly shaded with ochraceous tawny, outwardly edged with silvery white scales; an ochraceous tawny line on discocellular. Hind wing: a straight line like postmedial of fore wing to inner margin just below middle. Wings below orange buff, the lines and striae mahogany red. Fore wing with costa and termen partly light orange yellow, the inner margin whitish; hind wing with a russet shade at apex.

Expanse 28 mm.

Habitat.—São Paulo, Brazil. Type.—Cat. No. 33202, U. S. N. M.

#### Bronchelia funeraria, new species.

Male.—Body drab; some white hairs on frons, across collar, on metathorax and basal segments of abdomen. Wings benzo brown, suffused with fuscous, chiefly on termen and before the lunules of the subterminal line, which is smoky white, lunular, clear white between veins 3 and 4 of both wings. Fore wing: an oblique black subbasal streak below cell; antemedial line lunular, whitish, edged outwardly by a black streak on inner margin; some white scaling on medial area, and beyond postmedial, chiefly above vein 5; a fine black streak on discocellular; postmedial line fine, fuscous, lunular, outbent from costa to vein 5, then incurved, outwardly edged with whitish, and white points on veins; cilia spotted with white. Hind wing: some white scales at base of inner margin; postmedial line almost medial, lunular at costa, below vein 6 minutely dentate preceded by small black streaks; a black shade on discocellular, some white scaling beyond it between veins 6 and 7; a terminal black line; cilia tipped with white. Wings below grayish drab with some white striae and traces of whitish lines.

Expanse 60 mm.

Habitat.—Villa Rica, Paraguay. Type.—Cat. No. 33203, U. S. N. M.

#### Alcis attracta, new species.

Female.—Body pale vinaceous buff; palpi laterally fuscous; head and collar in front mottled with black and wood brown; abdomen with a few dark scales, the anal segment with dark mottling. Wings whitish suffused with light pinkish cinnamon with numerous fuscous striae. Fore wing: black costal spots at origin of veins; the lines indistinct, diffuse, formed by suffusions of striae; antemedial double, slightly outcurved; medial line forming diffuse spots in and below cell; a well marked black spot on discocellular; postmedial line macular, with more distinct spots at veins 6, 3, below 2, and on inner margin; a large fuscous space to termen from below vein 3 to costa, slightly mottled with saval brown; a black spot on inner margin before tornus, and some thicker striae on termen above tornus; an interrupted terminal black line. Hind wing more evenly striated; a faint medial line from cell to inner margin; a faint discal point. Wings below with fainter striae; discal points well marked; a marginal black fascia with on fore wing a pale terminal spot from below vein 3 to vein 4, also a similar small apical spot; on hind wing with marginal fascia narrower, from apex to vein 3.

Expanse 30 mm.

Habitat.—Alto da Serra, São Paulo, Brazil. Type.—Cat. No. 33204, U. S. N. M.

#### Melanolophia eucheria, new species.

Female.—Body and wings pale olive buff; antennae with fuscous rings; palpi with a lateral fuscous spot; collar dark olive buff edged with fuscous posteriorly; abdomen with some dorsal drab shading and irrorations; legs with fuscous transverse streaks. Fore wing: a few scattered drab gray and fuscous irrorations; costa buffish with numerous fuscous striae forming antemedial, medial, postmedial and subterminal spots; an antemedial diffuse narrow pinkish cinnamon vertical shade; a fuscous point at end of cell; postmedial line very fine, wavy, somewhat broken, inbent from costa to middle of inner margin, outwardly shaded with pinkish cinnamon, broadest between subcostal and vein 6, and between veins 5 and 3, below median fold by a fuscous patch; subterminal line fuscous, punctiform, followed by a fuscous black patch from vein 6 to below vein 5; otherwise shaded in places with pinkish cinnamon; small terminal fuscous lunules on interspaces; cilia fuscous at patch. Hind wing: the light drab and fuscous striae more numerous; traces of a very fine antemedial line; a postmedial pinkish cinnamon shade, surmounted by a fine black lunule on inner margin; similar shading on outer margin mottled with the fuscous striae. Wings underneath cream buff irrorated with deep neutral gray; dark points on discocellulars, and a marginal blackish band, widest on fore wing between veins 4 and 6. Fore wing: a faint postmedial line from below vein 6; the apex whitish.

Expanse 40 mm.

Habitat.—Alto da Serra, São Paulo, Brazil. Type.—Cat. No. 33205, U. S. N. M.

Conspicuous by the absence of any well-defined lines on hind wing.

### Bryoptera phileas, new species.

Male.-Body white; palpi laterally velvety black; a transverse hair brown shade on collar; abdomen dorsally with segmental drab gray lines; fore legs irrorated with drab gray; fore and mid tarsi hair brown with whitish rings; throat and hair below eyes velvety black. Wings white. Fore wings: costa tinged with pale gray and with hair brown striae; veins mostly light ochraceous buff expanding into spots beyond subterminal line; a few black scales at base on costa and below cell; antemedial line finely wavy, thicker on costa, vertical; a median black streak on costa continued as a very fine and faint line across cell; postmedial line fine, black, partly broken, vertical, incurved below subcostal, outcurved around cell and incurved near middle at submedian where it is preceded by a curved black streak; it is followed from costa by a broad light ochraceous buff shade, except between veins 4 and 6 where it is replaced by a grayish olive spot irrorated with black; subterminal line fine, black, lunular; the interspaces beyond light grayish olive, but darker shaded on either side of vein 5; terminal black lunules on interspaces. Hind wing: some gravish olive irrorations on basal area and on costa; a broad fuscous black fascia across cell to inner margin below middle; a black point on discocellular; postmedial line as on fore wing, followed by a black spot between veins 4 and 6, and a downturned heavy streak before inner margin; subterminal line and terminal lunules as on fore wing; veins terminally light ochraceous buff. Wings below white slightly suffused with light buff; a broad subterminal blackish band, narrower on hind wing.

Expanse 33 mm.

Habitat.—Alto da Serra, São Paulo, Brazil. Type.—Cat. No. 33206, U. S. N. M.

#### Thyrinteina schadeana, new species.

Female.—Body and wings white irrorated with fuscous scales; the wings faintly suffused with drab, the outer line nearer to termen than in *T. arnobia* Cram.; discocellular spots on both wings oval, strongly outlined with black, underside with black discal spots on both wings.

Expanse 45 mm.

Habitat.—San Bernardino, Paraguay. Type.—Cat. No. 33207, U. S. N. M.

What I consider the male from Argentina has the fore wing much narrower than *arnobia*, and black discal spots on underside of both wings.

#### Cidariophanes proteria, new species.

Female.—Palpi light buff mottled with drab; frons drab gray; vertex white, with a few brownish scales; collar and thorax mottled white, drab, and fuscous; abdomen above with two basal segments cinnamon, otherwise white, partly suffused with cinnamon buff, light drab and a few black scales, the large dorsal tufts chestnut brown. Body below white finely irrorated with drab gray. Fore wing whitish, largely suffused with orange citrine and darker striae; base

fuscous limited by a broad white line, outbent from costa, bluntly angled and inbent just above median; a fine black line before middle of wing, outangled in cell, and on submedian fold, inangled on median and submedian veins; a black anullus on discocellular filled in with dark grayish olive scales; postmedial line fine, black, excurved and outbent, angled at vein 4, with a vertical lunule to vein 3, then inbent and excurved between veins; a subterminal triangular fuscous spot on costa with a downbent branch to vein 5, the whole rather broadly edged with white; some whitish subterminal markings between vein 3 and tornus. Hind wing whitish drab with fine hair brown striae; a small discal spot; some small postmedial spots, and a narrow subterminal dark shade. Wings below whitish buff with hair brown striae; hind wing with a short angled line from discocellular spot.

Expanse 45 mm.

Habitat.—Tarague, Santa Catharina, Brazil. Type.—Cat. No. 33208, U. S. N. M. Nearest C. muscosa Dognin.

## Physocleora marcia, new species.

Male.—Palpi fuscous black. Frons fuscous. Vertex and collar brownish: thorax and abdomen tilleul buff irrorated with black, the latter with segments 3 and 4 dorsally black. Wings tilleul buff, the medial space white; a few black irrorations; terminal line black, lunular, expanding at middle of interspaces; black points on discocellulars. Fore wing: lines black, the antemedial and medial outcurved from costa to median fold, then outbent, the latter crossing the discocellular; postmedial line outcurved from costa to below vein 5, again to median fold, then outbent; outwardly followed by a wood brown shade forming a darker patch between veins 4 and 5; a subterminal whitish shade, partly edged outwardly with black; margin diffusely wood brown; costal margin wood brown with black spots at origin of veins. Hind wing: antemedial and medial lines slightly outcurved, the space beyond avellaneous with a diffuse whitish subterminal shade. Fore wing below diffusely hair brown; base, inner margin, a postmedial fascia to vein 2, and terminal streaks above veins whitish. Hind wing below whitish, the lines as above, some scattered hair brown striae; termen narrowly hair brown.

Expanse 19 mm.

Habitat.—São Paulo, Brazil. Type.—Cat. No. 33209, U. S. N. M.

Somewhat like *P. tascaria* Schs. but darker with more prominent lines.

# Physocleora? santosia, new species.

Male.—Palpi long, porrect. Body tilleul buff; palpi with lateral dark scaling near tip; frons hair brown; drab irrorations on thorax; third segment of abdomen above hair brown. Wings tilleul buff with some hair brown irrorations; a fine terminal black line expanding into spots on interspaces. Fore wing: costa olive buff with black spots at origin of veins, and black striae between them; subterminal and medial lines extremely fine and rather indistinct; post-

medial line punctiform followed by some small clusters of pale cinnamon scales; an incomplete dentate subterminal white line, preceded by clusters of black scales from costa to vein 5, and on inner margin; some fainter black clusters follow this line. Hind wing: traces of subbasal, antemedial and medial wavy lines, the latter preceded by a black point on discocellular, and followed by pale cinnamon shading; a faint subterminal whitish line with dark clusters of scales from costa to below vein 6. Fore wing below tilleul buff, almost entirely suffused with hair brown; a pale shade beyond cell and before postmedial which is formed by short dark streaks on veins; some pale mottling on termen. Hind wing below tilleul buff with only a few hair brown irrorations; a small antemedial spot on costa, and one on discocellular; traces of dark subterminal shading from costa to below vein 6.

Expanse 17 mm.

Habitat.—Alto da Serra, São Paulo, Brazil.

*Type.*—Cat. No. 33210, U. S. N. M.

In appearance like *P. enana* Dogn., which is a true *Physocleora* with upturned palpi.

#### Cambogia paulona, new species.

Male.—Body pale orange yellow; from salmon buff; abdomen with segmental tawny lines. Wings pale orange yellow; fore wing crossed by eight russet vinaceous lines, partly macular and irrorated with silver scales, the lines almost evenly spaced; a terminal punctiform line. Hind wings crossed by six lines.

Expanse 16 mm.

Habitat.—São Paulo, Brazil.

Type.—Cat. No. 33211, U. S. N. M.

Is nearest to *C. anguinata* Warr. but paler, the lines much finer.

# A NEW GENUS AND FIVE NEW SPECIES OF SYRPHIDAE FROM AUSTRALIA (DIPTERA).

BY RAYMOND C. SHANNON, U. S. Bureau of Entomology.

In a small collection of Australian Syrphidae, some contained in the National Museum Collection and some borrowed from the British Museum through the courtesy of Major E. E. Austen and F. W. Edwards, the writer found one genus and several species new to science. Descriptions of these new forms are given below. Two other genera new to Australia are also represented in the collection, and re-descriptions of these are likewise given.

#### Genus PSILOTA Meigen.

Two species of *Psilota* are at hand (British Museum Collection) one of which was previously described by G. F. Hill as *Psilota cyanea*. This name is preoccupied, as has been pointed out by Curran (*P. cyanea* Brunetti, India) who substituted